

REMARKS/ARGUMENTS

Claims 7-12 are pending in the application. Claims 8-12 have been amended to correct a typographical error.

Claims 7-11 were rejected under 35 U.S.C. §102(b) as being anticipated by Albrecht et al., U.S. Patent No. 5,821,494 (hereinafter “Albrecht”). Claims 7-11 were rejected under 35 U.S.C. §102(b) as being anticipated by Ainslie et al., U.S. Patent No. 4,761,699 (hereinafter “Ainslie”). Claims 12 were rejected under 35 U.S.C. §103(a) as being unpatentable over Albrecht. Claims 12 were rejected under 35 U.S.C. §103(a) as being unpatentable over Ainslie.

Rejections under 35 U.S.C. §102

Claims 7-11 were rejected under 35 U.S.C. §102(b) as being anticipated by Albrecht. Albrecht discloses making a solder connection between a slider pad and a suspension pad forming a solder bump on the solder pad at the slider level to affix the slider to the suspension (*See Abstract*).

The Applicants respectfully traverse these rejections, in part, because Albrecht fails to teach or suggest a slider bonding pad initially without bonding substance coupled to said suspension such that the bonding substance on said suspension bonding pad is reflowed so as to electrically couple the suspension bonding pad and the slider bonding pad, as called for in claim 7 as amended. The Examiner states, in regards to claim 7, that Albrecht discloses the invention as claimed. Albrecht states:

In FIG. 10A the slider 42 is affixed to the suspension 44 as described hereinabove. This affixing positions the tail 100 over and adjacent the flattened solder bump 116. Upon reflow the flattened solder bump 116 has an expected reconfiguration due to surface tension which will form a substantially spherical shape as shown by the phantom line at 118. The tail 100 projects within this expected expansion which will cause the solder bumps 94 and 116 to effectively unite and cause an efficient reflow therebetween. As

shown in FIG. 10A the solder bumps 94 and 116 are reflowed by the laser beam under an inert gas atmosphere like nitrogen gas which produces the solder connection 60 between the slider pad 62 to the suspension pad 64, as shown in FIG. 10B.

(See Albrecht, col. 7, line 66 – col. 8, line 11).

In other words, a solder bump is placed on both the slider pad and the suspension pad, at which point the two bumps unite to create the bond. The slider bonding pad initially has a bonding substance.

While the patentability of a “product by process” claim must be determined by the product itself and not the actual process, the process in this instance will affect the state of the product. The gravitational pull on the solder reflow and initial placement of the solder will affect the shape of the solder bond.

Therefore, Albrecht does not disclose a slider bonding pad initially without bonding substance coupled to said suspension such that the bonding substance on said suspension bonding pad is reflowed so as to electrically couple the suspension bonding pad and the slider bonding pad, as set forth in claim 7. Since at least this feature of claim 7 is missing from Albrecht, the Albrecht reference fails to anticipate claim 7 under 35 U.S.C. §102(b). Applicant further respectfully submits that claims 8-11 are allowable as depending from the allowable base claim 7.

Claims 7-11 were further rejected under 35 U.S.C. §102(b) as being anticipated by Ainslie. Ainslie discloses mechanically attaching a slider to the suspension with reflowed solder balls. A pattern of solder contact pads is formed on the back side of the slider and a similar pattern of solder-wettable regions is formed on the suspension (*See Abstract*).

The Applicants respectfully traverse these rejections, in part, because Ainslie fails to teach or suggest a slider bonding pad initially without bonding substance coupled to said

suspension such that the bonding substance on said suspension bonding pad is reflowed so as to electrically coupled the suspension bonding pad and the slider bonding pad, as called for in claim 7 as amended. The Examiner states, in regards to claims 7, that Ainslie discloses the invention as claimed. Ainslie states:

Referring now to FIG. 5, solder balls 80 are formed on the solder-wettable regions 60 and solder balls 82 are formed on solder-wettable regions 61, 63. The solder balls are preferably formed by first tightly securing a mask with circular openings over the suspension, the openings being aligned with the etched-away portions of layer 48. A solder paste is then spread over the mask and forced through the openings. The mask is removed and the solder heated to reflow as solder balls 80, 82. The solder balls are then adhered to the regions 60, 61 and 63 of the patterned conductive layer 44. The solder balls 80, 82 may also be formed on the suspension by evaporating solder through openings in a mask placed over insulating layer 48, removing the mask and thereafter heating the evaporated solder to cause the solder to reflow as solder balls 80, 82.

(See Ainslie, col. 6, lines 53-68).

In other words, the solder is applied to the pad 41 on the slider and the opening 63 on the suspension. Further, Ainslie states:

Referring again to FIG. 3, the solder-wettable regions on suspension 40 are formed by removing selected portions of the polyimide insulating layer 48, which thereby exposes the *circular openings* 60, 61 on large area portions 52, 54 and the circular openings 63 on lead terminations 47.

(See Ainslie, col. 4, lines 18-23) (Emphasis Added).

In other words, the suspension does not have a structure such as a pad, it has the absence of a structure in the form of circular openings. Therefore, Ainslie does not disclose a slider bonding pad initially without bonding substance coupled to said suspension such that the bonding substance on said suspension bonding pad is reflowed so as to electrically couple the suspension bonding pad and the slider bonding pad, as set forth in claim 7. Since at least this feature of claim 7 is missing from Ainslie, the Ainslie reference fails to anticipate claim 7 under

35 U.S.C. §102(b). Applicant further respectfully submits that claims 8-11 are allowable as depending from the allowable base claim 7.

Based on the arguments above, reconsideration and withdrawal of the rejection of claims 7-11 under 35 U.S.C. §102(b) is respectfully requested.

Rejections under 35 U.S.C. §103

Claim 12 were rejected under 35 U.S.C. §103(a) as being unpatentable over Albrecht or Ainslie. Claim 12 includes a slider bonding pad initially without bonding substance coupled to said suspension such that the bonding substance on said suspension bonding pad is reflowed so as to electrically coupled the suspension bonding pad and the slider bonding pad, through dependency on claim 7, respectively. As stated above, Albrecht and Ainslie both fail to disclose, teach, or suggest this limitation. Therefore, claim 12 is not obvious in view of either Albrecht or Ainslie.

Based on the arguments above, reconsideration and withdrawal of the rejection of claim 12 under 35 U.S.C. §103(a) is respectfully requested.

It is believed that this Amendment places the application in condition for allowance, and early favorable consideration of this Amendment is earnestly solicited.

If, in the opinion of the Examiner, an interview would expedite the prosecution of this application, the Examiner is invited to call the undersigned attorney at the telephone number listed below.

The Office is hereby authorized to charge any fees, or credit any overpayments, to
Deposit Account No. 11-0600.

Respectfully submitted,

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